CLAIMS

1. A wind-power unit comprising a wind turbine and an electric generator connected to the wind turbine, the stator of the generator having a winding comprising a high-voltage cable, said cable comprising a core of conducting material, a first layer of semiconducting material surrounding the core, an insulating layer of solid material surrounding the first layer, and a second layer of semiconducting material surrounding the insulating layer, characterized in that the wind turbine is provided with a plurality of turbine blades running substantially vertically and connected to a turbine shaft running substantially vertically, and in that the generator is arranged at the lower end of the turbine shaft.

2. A wind-power unit as claimed in claim 1, characterized in that the generator is arranged to be able to be in operation for a long period of time with an output several times greater than the rated output, preferably 3-5 times the rated output.

3. A wind-power unit as claimed in claim 1 or claim 2, characterized in that the winding is arranged for a field strength exceeding 10 kV/mm.

4. A wind-power unit as claimed in any one of claims 1-3, characterized in that the wind turbine is mechanically dimensioned for operation in wind strengths above 13 m/s with the same turbine-blade setting as at lower wind strengths.

5. A wind-power unit as claimed in claim 4, characterized in that the wind turbine is mechanically dimensioned for operation in wind strengths in excess of 25 m/s.

6. A wind-power unit as claimed in any one of claims 1-5, characterized in that the rotor of the generator is provided with permanent magnets.

7. A wind-power unit as claimed in any one of claims 1-6, characterized in that the generator comprises a self-starting winding.

8. A wind-power unit as claimed in any one of claims 1-7, characterized in that the main winding of the generator is arranged to permit starting of the unit.

9. A wind-power unit as claimed in any one of claims 1-8, characterized in that the rotor shaft of the generator is substantially vertical and concentric with the turbine shaft.

10. A wind-power unit as claimed in claim 9, characterized in that the unit comprises a base arranged under the generator, on which base the generator rotor is journalled in an axial bearing.

11. A wind-power unit as claimed in claim 10, characterized in that the axial bearing is dimensioned to carry both the weight of the generator rotor and that of the wind turbine.

12. A wind-power unit as claimed in any one of claims 1-11, characterized in that the weight of the wind turbine is carried primarily by the turbine shaft, said shaft thus also functioning as a mast for the unit.

13. A wind-power unit as claimed in any one of claims 1-12, characterized in that the upper part of the turbine shaft is journalled in at least one radial bearing that is secured laterally by inclined stays and/or bracing cables.

14. A wind-power unit as claimed in any one of claims 1-13, characterized in that the turbine shaft is jointed at its lower part.

15. A wind-power unit as claimed in any one of claims 1-14, characterized in that the turbine blades are substantially rectilinear.

16. A wind-power unit as claimed in any one of claims 1-14, characterized in that both ends of each turbine blade are situated close to the turbine shaft and the blades run in a curved shape between their ends.

17. A wind-power unit as claimed in any one of claims 1-14, characterized in

that the upper end of each turbine blade is situated close to the upper end of the turbine shaft and its lower end is situated a relatively large distance from the turbine shaft, said distance being preferably within the interval 0.1-0.5 times the length of the turbine shaft, and in that each turbine blade runs in a curve from its upper to its lower end.

18. A wind-power unit as claimed in any one of claims 1-17, characterized in that the turbine blades have asymmetrical profile in a cross section.

19. A wind-power unit as claimed in any one of claims 1-18, characterized in that the profile of the turbine blades in a cross section is regular during operation.

20. A wind-power unit as claimed in any one of claims 1-19, characterized in that it is designed for placement at sea.

21. A wind-power unit as claimed in any one of claims 1-19, characterized in that it is designed for placement on mountain ranges.

22. A wind-power plant as claimed in any one of claims 1-21, characterized in that the stator winding of each wind-power unit is connected by a rectifier to an inverter that is common to a plurality of wind-power units, said inverter being arranged to supply energy to an electric supply network.

23. A wind-power plant as claimed in claim 22, characterized in that its unit is designed for placement at sea, that each inverter is arranged in connection with each unit and in that the inverter is arranged on land.

24. A wind-power plant as claimed in claim 23, characterized in that each wind-power unit is connected to the inverter via a cable arranged on or close to the sea/lake bed.

25. The use of a wind-power unit as claimed in any one of claims 1-21 or a wind-power plant as claimed in any one of claims 22-24 in order to generator electric power.

26. A method of generating electric power wherein a wind turbine and an electric generator are arranged connected together and the stator of the generator is wound with high-voltage cable, said cable comprising a core of conducting material, a first layer of semiconducting material surrounding the core, an insulating layer of solid material surrounding the first layer, and a second layer of semiconducting material surrounding the insulating layer, characterized in that the wind turbine is provided with a plurality of turbine blades running substantially vertically and connected to a turbine shaft oriented substantially vertically, and in that the generator is arranged at the lower end of the turbine shaft.

27. A method as claimed in claim 26, characterized in that the method is utilized when using a wind-power unit as claimed in any one of claims 1-21.

28. A method as claimed in claim 26 or 27, characterized in that the wind turbine is kept in active operation at wind strengths in excess of 13 m/s without altering the turbine blades and without the wind turbine being retarded.

29. A method as claimed in claim 28, characterized in that the wind turbine is kept in active operation at wind strengths in excess of 25 m/s.